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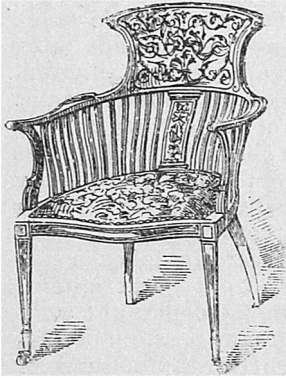
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## HOW FURNITURE IS MADE.

By JAMES THOMSON.



PEOPLE outside of the business—looking at the finished product of the cabinet-maker's art—have but a faint conception of the methods by which such results are obtained. There exists in the minds of many a sort of misty impression (formed, doubtless, from seeing a jobbing carpenter at work) of a man with saws, planes and hammer and nails, fashioning, in a rather haphazard manner, from the undressed timber of commerce, the articles desired, and with his own two hands doing all the work appertaining to the same.

There was a time when in this country such methods obtained, and there are some countries where to-day the cabinet-maker is expected to be competent to execute unaided every portion of the work, from the rude roughing-out to the polishing.

At the present time, in this country, the methods employed in making high-class furniture do not differ much from those pursued in earlier times. To the cabinet-maker is allotted the task of putting the work together, after the sawyer, the turner, the molder and carver have each performed their part. In the production of this class of work present advancement has not been due so much to the utilization of new forces as in a re-adjustment of old ones and a quickening in methods of hand labor. Whether from the impulse imparted through familiarity with machinery, or from some other cause, it is true that the workman of to-day possesses a certain vigor and facility of execution wanting in his old-time prototype.

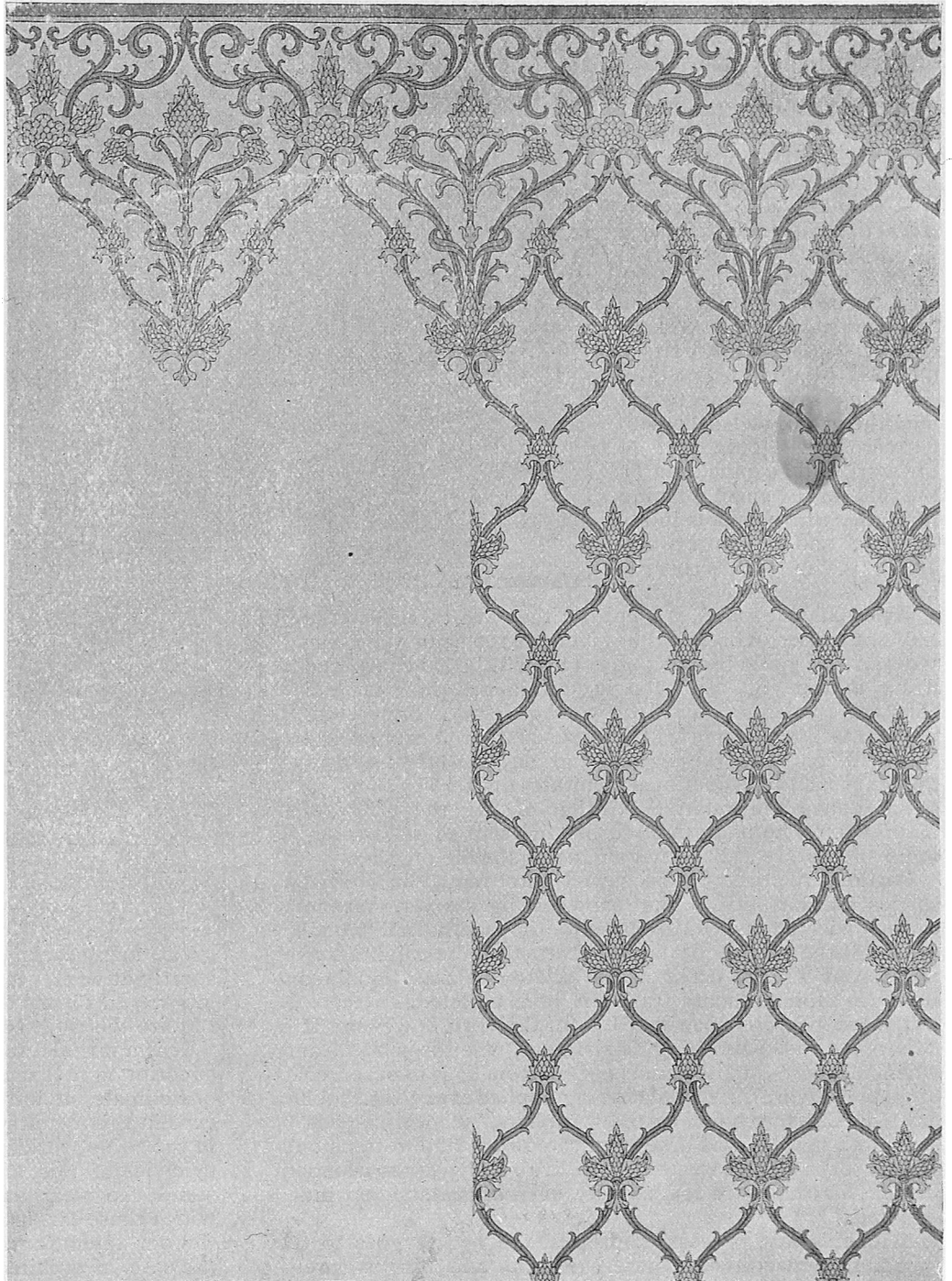
The workman of old had his one inflexible rule for doing everything, to deviate from which was a thing not to be thought of for a moment. The man of to-day makes haste to discover and adopt any plan that will enable him to do the work most speedily, believing that it is a waste of energy to make three movements when one will suffice. Thirty years ago, when our best cabinet-makers were drawn from the Fatherland, it was enough to send an energetic person in a fit to watch one of them at work, his movements being so slow and so delightfully deliberate that one soon despaired of his ever getting through his task. But when "in the course of human events" it became manifest that the job was completed, it was interesting to watch his face and note the proud look with which he viewed his handiwork; and then when he started on a new piece of work his mates considered it their duty to discuss the matter with him and render advice as to how the work should be done; and for the balance of the day they smoked their long pipes and ran back and forth, discussing and gesticulating, and made quite a time of it. A good, smart workman of to-day would have had the work well on its way while they were talking about it.

The introduction of labor-saving ma-

chinery, and the very general subdivision of labor in the cheaper branches of the business, have developed the condition that confronts us to-day—a condition that enables the wage-earner to furnish his home in a manner unthought of by his father before him. The large factories that have sprung up, as it were, in the night, throughout the wooded regions of the West, have cheapened production to such an extent that it is difficult to see how this lowering process can go further.

It would be interesting, no doubt, to describe the process pursued in those vast hives of industry, but the immediate object of this article is to present a picture of that branch of the business which more closely approximates that of the olden times, *i. e.*, the making of custom work, in which the use of machinery is more restricted, and in many cases used to a very limited extent. In the making of machined furniture it does not require the skilled workmen so essential in the custom trade. Many of the most valuable men in this branch have learned to do but one little part of the work, and to do it well, but in no sense can they be considered cabinet-makers—simply parts of a rather complicated machine.

Let us presume that a sideboard is wanted, and you have



GOthic TRACERY, WITH CROWN EFFECT. BY NEVIUS & HAVILAND.

hunted high and low through the stocks of the dealers and have found none to suit your purpose or fancy. The next best thing will be to have one made to order from a special design, embodying your ideas; this will, however, cost you much more than the ready-made article, but will probably be worth the extra cost.

Having given your instructions regarding dimensions required and so on to the salesman, he in turn will have the designer make a sketch, drawn to a small scale (generally one inch to the foot), showing the sideboard desired. If this is satisfactory and the price is right, you may give the order to go ahead, and will doubtless be informed that to execute the work will take from six to eight weeks.

The accepted design will next be taken in hand by the draughtsman, who will prepare a full-size working drawing, technically known as "the detail," showing in a manner plainly understood by the workmen all the parts with colored sections of same. The foreman will now take this working chart, and from it make out a bill of quantities known as "the list," which will include everything required in the construction, and giving dimensions of all the pieces used, what they are to be used for, and the kind of wood required; all the parts will be numbered, and numbers to correspond will be noted on the "detail." This list will then be placed in the hands of a workman in the machine-room, who will proceed to cut from seasoned stock the necessary parts. Most of the cutting out will be done by rapidly-revolving saws, some to cut *with* the grain, and others to cut across it. This part of the work will be expedited by the aid of a small planing machine, which makes joints quickly, and a larger machine, which planes boards thinner when found too thick.

When all the parts are cut out they are carried to the cabinet maker, who will be given, at the same time, the "detail" to guide him aright. This will be his chart, and if he is wise he will keep it prominently in view and constantly refer to it until the work on hand is completed. Sometimes a workman will take a square rod and on one side will mark all the heights and on the other side all the lengths; this sometimes facilitates matters by showing at a glance the relative position of all the principal members. The parts to be turned are sent to the turner, some pieces are sent to have moldings made on them.

Portions required to be sawed into fancy or curved shapes are handed to the band or jig sawyer, and the carver will be asked to execute the sculptured work. When all the various parts are returned to the cabinet-maker again, they will be fitted in the allotted places, and in due time the cabinet-maker's task will be completed.

The sideboard is not yet ready for delivery, however. It is next taken to the finishing department, when it is oiled, and, when necessary, stained, and is given from four to seven coats of shellac or varnish, one coat being applied every day. When dry it is taken in hand by the "rubbers," who, with pads of hair-cloth or felt, and fine pumice-powder and rottenstone-and oil (or in some cases water) will rub it all over to a smooth surface, imparting to it that soft, even appearance so much admired.

After this last process is effected the article goes to the trimming department, where the locks and hinges (previously fitted by the cabinet-maker) are put on and the handles are added; the glass will be set, and, after a final fitting and

easing up of drawers and doors and a general cleaning up, the sideboard will be set down in the place allotted for its reception in your dining-room.

The methods of working differ as to detail, but the description here given will answer for the average workshop, where "made to order" furniture is executed. It will be noted that the larger part of the work is done by hand, not more than a fifth being machine work, it being thoroughly understood that where there is but one piece of a kind to make, the advantages of machinery outside of the sawing out are not very great. In many instances it has been found less costly to do the work by hand than to get the machine ready to do it. It is in the large factories, where a great number of articles of a pattern are turned out, that the great value of machinery becomes apparent.

In such factories labor is subdivided, to a great extent. The man who puts the work together may possibly be anything but a cabinet-maker. He receives the parts so perfectly executed by the machine that little more remains to be done but to put them and secure them in place.

American inventive genius has devised machines to do about everything but the fitting together, and that is now reduced to a minimum by various new appliances now coming into use. In many workshops devoted to making this class of furniture the carving is either wholly or in part done by machine, the machines making from two to four pieces of carving simultaneously, at the cost

of one-tenth of that of hand labor. A model of the carving has first to be made, and after that has been provided, replicas can be produced *ad libitum*. Much of this work is so well executed that it is used exactly as it comes from the machine, untouched by hand labor; but unless there are a

great many carvings of a kind and the machine is kept constantly at work, it will be found cheaper to employ hand labor. In theory these labor-saving devices are all right, but require the right conditions for their profitable application.

It is a mistake to suppose that furniture of foreign make is superior to that made here. The foreign work will not stand our climate, and if one will but pay the price one can procure in this country as good work as can be found anywhere in the wide world. The interiors of the Pullman cars are evidence of this, and Europe can send us nothing that can stand the wear and tear and extremes of temperature to which these cars are subjected. We draw on the whole world for our talent, and what was shown at the World's Fair in the case of architecture applies with equal force to that of furniture making. We are able to produce the best when occasion demands it.



WALL PAPER DESIGN. FROM THE *Revue des Arts Decoratifs*.